

Journal of Entrepreneurship, Business and Economics

ISSN 2345-4695

2018, 6(1), 166–204

POSSIBLE GREEN POWER MARKETING STRATEGIES TO PROMOTE SOLAR POWER IN SRI LANKA

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Abstracts

The need to invest in alternative energy solutions to supplement the increasing demand for power by the growing national economy of Sri Lanka has become a significant issue at present. One of the approaches adopted by the country to address this issue is to promote the use of solar power in the household sector in order to reduce its dependence on the national power grid and to increase the energy efficiency in their daily activities. As the participation of the private sector is involved in this undertaking, the problem of identifying the most appropriate marketing methods that can be used to promote solar power in the household sector arises. This research by focusing on the problem has contributed to the green power marketing literature by identifying and applying four selected marketing strategies that can be used to market solar power in Sri Lanka. A descriptive research methodology has been used in this study by conducting a survey that was administered to a selected sample from a population that included 110 households and 25 marketing experts. The Study that was carried out over a period of eight months used a questionnaire and the online interview as survey instruments. It proposes a green power marketing framework for a solar power industry in Sri Lanka. The findings of this study present a convincing case that Cause-related, Community-based and personal selling strategies may work to promote solar power in Sri Lanka. Traditional methods like promotional marketing have little influence on customers. Potential customers also suggested that the marketing approach needs to be more environment-friendly and community based. In future researches it is advisable to study in different contexts such as emerging, developing and developed economies and making comparisons.

Research paper

Keywords: Cause-related marketing, Community-based marketing, Green Power Marketing, Personal selling marketing, Promotional marketing, Solar power

Reference to this paper should be made as follows: Ambepitiya, K. (2018). Possible Green Power Marketing Strategies to Promote Solar Power in Sri Lanka, *Journal of Entrepreneurship, Business and Economics*, 6(1), 166–204.

Introduction

Many developing countries are in the position of having to develop their economy, society and political structure in various ways by promoting national growth. Due to this continuous development of the economy, many environmental problems have arisen (Wang et al., 2004) and the excessive use of energy is one contributing factor. Developing countries will be badly affected by the looming energy crisis due to their almost total dependence on conventional sources, high population growth, fast paced urbanization and unending development. Therefore, energy efficiency and energy security have become significant elements in the national economies of developing countries. Consequently, it has become necessary for the household sector also to change over from the traditional methods of energy usage in its daily activities. However, the energy sector is serviced by both public and private companies in many developing countries, with the larger proportion being dominated by the public sector. Therefore, the energy policy is mainly controlled by the government and its intervention in energy decision making is unavoidable. Solar power can provide a perpetual source of energy that could assure energy security and energy independence for all (Kabira et al., 2018). Such a state of affairs could prove very valuable not only for individuals, but also for the socio-economic prosperity of companies, societies, states and nations (Kabira et al., 2017). In fact, solar energy has now been adopted as a natural and important part of electricity generation in many developed and developing countries to meet energy needs.

This study focuses on solar energy promotion and marketing in the developing country context due to some important reasons. Solar energy is the most exploitable renewable resource as more energy from sunlight

strikes the earth in one hour than all of the energy consumed by humans in an entire year (Lewis & Nocera, 2006). Stabilizing the carbon dioxide level to prevent climate change is also an important energy related problem facing the world. Thus, the stabilizing will require the development of renewable sources that do not emit carbon-dioxide into the atmosphere like fossil fuels (King, 2011). With the rising demand for energy, more than 100 countries including Cambodia (Schmid, 2012), China (Shen & Luo, 2015), and India have enacted policies and programs for harnessing solar energy (Pandey et al., 2012). However, while many countries are willing to invest in solar power generation, many of the companies engaged in the solar power business lack know-how on the topic of green power marketing. The need for green power marketing will go up soon with the rise in customer demand for energy from solar and other renewable sources (Kar et al., 2016). In these circumstances, the number of manufacturers engaged in the production of solar and other renewable energy plants will increase, making this a highly competitive market (Herch, 2017). Therefore, these firms will have to do a lot of market research to identify the exact consumer needs, while at the same time advising the consumers about all the pros and cons regarding the use of solar energy for household purposes (Ambepitiya, 2015).

The Sri Lankan government plans to increase the share of renewable energy in electricity production to 100 per cent by 2030 (Transmission and Generation Planning Branch, 2015). The Sri Lankan Government's target represents a much bigger increase than those announced in the plans of other countries for their electricity sectors. However, the Public Utilities Commission had criticized the proposed plan by claiming that it did not focus on the promotion of renewable energy technologies among the public

(Mahapatra, 2016 February 25). As per the findings of the collaborative research conducted by the Sri Lanka Government and the World Bank (2002), there is insufficient consumer awareness on the use of renewable energy and its benefits. Considering the lack of scientific research on promoting green power, this study hopes to fill the gap in the literature by discussing the promotion of green power in Sri Lanka. This research also intends to contribute to the green marketing literature by identifying four effective marketing strategies that can be put into practice to yield good results. To study the consumers' preferences first by conducting a market survey and then formulating the marketing strategies that can be used to stimulate consumer demand for solar energy is the main objective of this study. While this supports the use of some marketing strategies derived theoretically, it also contributes empirically to the solar industry by providing marketing insights on how solar power generation can be promoted among developing countries.

This paper first discusses the theoretical aspects in relation to the research problem by elaborating on the four selected marketing strategies. Secondly, the methodology section deals with the data collection, variables and sample definitions related to the design of the study. Next, the key results and discussions present the importance of practicing selected marketing strategies in the Sri Lankan context, with reference to the related literature. The conclusion highlights the opportunity provided by thinking up new ways of marketing solar power units in a Sri Lankan setting, based on consumer preferences.

Theoretical background

Energy resources have to be converted into a usable form for all applications and this is done in both developing and developed countries (Kar & Sinha, 2014; Sharma et al., 2012). There are many forms of energy resources in the world and different countries use different resources, which are selected primarily on the basis of availability and economic viability. However, environmental and political considerations can also influence the choice of the energy portfolio in any given country (Sustainable Energy Authority, 2013). An energy resource is known as an 'indigenous energy resource' when it originates within the country and is called non-indigenous if it originates outside the country. Either type of these resources can produce energy but this exhausts the resource. What is needed is an alternative energy resource that can be replaced by a natural process at a rate that is equal to or faster than the rate at which that resource is being consumed (Sustainable Energy Authority, 2010). This paper focuses on solar energy, which is the mother of all forms of energy, derived directly from the sun's radiation.

Off-grid solar power systems are well-matched to meet the needs of urban consumers by means of an effective technology, while offering an opportunity for individuals to be more environment conscious (BRECSU, 2001). With an effective controlling and monitoring system the solar energy installation can provide efficiency and cost effectiveness, besides enhancing the customer awareness. Truffer et al. (2001) define this type of efficiency in terms of 'Megawatts', which are units of energy that were never used up, perhaps due to utilizing an energy efficient product or more considerate behaviour arising from changing attitudes towards energy use. This type of advantage can enhance the suitability of solar power as it increases the

compatibility of the system with current energy consumption trends. The global power generation capacity is likely to increase by more than 70% from current levels by 2030, helped in part by the changeover from conventional energy to non-conventional energy, provided the renewable energy technologies are developed to a degree that is comparable to the conventional technologies. A big increase in demand is expected in the developing countries (EIA, 2006). Therefore, there is a need to create greater awareness among customers who live in developing countries so they can be converted into consumers of solar energy (Gottesfeld & Cherry, 2011).

Marketing and consumer awareness

Renewable energy generation faces many obstacles today, delaying commercial scale exploitation. The lack of or low level of awareness, inadequate information on products, technology, costs, benefits and potential of the energy sources, operational and maintenance costs, financing facilities etc., seriously impact the growth and penetration of renewable energy technology (Painuly, 2001). Competition between energy firms has increased in terms of costs as well as perceived risks associated with new technologies due to the lack of funds for renewable energy generation, particularly in developing countries. Financing problems represent one of the most important barriers to expanding the use of renewable energy sources. National and international institutes are trying to lower this barrier through a variety of measures, both in developed and developing countries. Building the capacities of financial institutions, investors and other stakeholders, based on their knowledge of renewable energy technology, and increasing the awareness of stakeholders, including technology clients are other important areas that

need to be addressed in the marketing, as these aspects have traditionally been part of most renewable energy projects (Painuly & Wohlgemuth, 2006). Incentive-based renewable energy programs are in operation in several developing countries. The World Bank's renewable energy programs in Indonesia (solar home system project), Sri Lanka and Laos, etc. are incentive-based programs (Longa & Hernandez, 2012).

Consumer awareness of renewable energy technologies is important for the market development (Kar et al., 2016). It is hard to achieve the goal of renewable energy development with a low level of consumer awareness (Wustenhagen et al., 2007). Therefore, raising the level of consumer awareness on renewable energy holds the key to successful implementation of renewable energy projects (Rí'o & Burguillo, 2008). Such factors as geographical distribution, cultural and social diversity and income disparity may delay a successful implementation of solar energy on a large scale. Consumer desires, interests and actions are required for the adoption of more solar energy applications (Kar et al., 2016).

Moreover, consumer awareness about the technology will improve as more of these systems are installed, by creating a positive feedback in respect of the adoption process of solar power. In other words, the information will spread and the consumer market will improve through the demand created within the rising market (Lobel & Perakis, 2011). There are a variety of market-related issues that may interfere with the continued development of solar electricity, such as lack of consumer awareness and education, government's legislative and regulatory restrictions, and financing problems. Consumers should be better educated about the use of solar energy, which many people think is used only for water heating purposes. Consum-

ers must also be made aware that it can meet electricity needs through the use of photovoltaic panels. They have to be educated on the process of solar power generation and the performance of photovoltaic systems over time. According to the US Photovoltaic Industry Road Map of 2003, there should be consumer awareness and knowledge of solar technologies and the best way to ensure this is to teach these things from an early age in educational institutions. The nature of the green consumer must be understood and valuable features must be incorporated in the products to increase their popularity. Knowledge of the consumer should be at the center of all market actions (Bell & Emory, 1971). Consumers who are environment conscious seek environmental-friendly choices within the market to mitigate the environmental devastation (Straughan & Roberts, 1999).

Green orientation and strategy

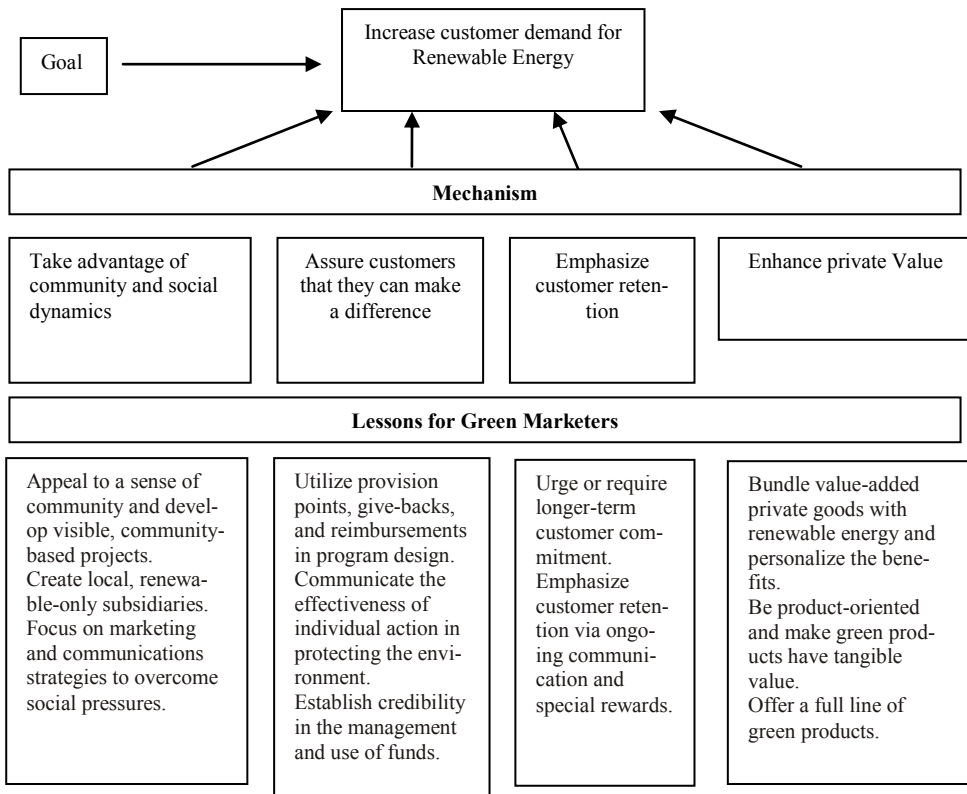
Some studies have been conducted to address the characteristics of green consumers by identifying those qualities possessed by people who are likely to exhibit Ecologically Concerned Consumer Behaviour (ECCB). Therefore, it can be very useful to a green marketer to be able to identify who are the green consumers and their characteristics of ECCB. The marketing strategy is the way in which all the activities of the marketing function are organized to attain a profitable growth in sales, and by deciding what resources should be allocated and when (Kotler, 2003). Therefore, the ultimate aim of marketing is to make the customer aware of the value of the product and influencing him to make repeat purchases (Ambepitiya, 2015). When the marketing is done with the intention of trying to protect the environment and promoting sustainability at the same time, it is called green

marketing. Solar power is the type of renewable energy that lends itself ideally to the application of green marketing. According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. Thus, green marketing incorporates a broad range of activities to produce, promote, package and reclaim products in a manner that is sensitive or responsive to ecological concerns (American Marketing Association, 2010). Polonsky and Mintu-Wimsatt (1995) have defined green marketing as, "the application of marketing concepts and tools to facilitate and exchange products that meet individual and organizational goals while at the same they conserve, protect and preserve the physical environment." In their marketing operation, the suppliers of electricity will have to shift from a purely product or sales oriented philosophy to a customer and environment oriented philosophy (Ambepitiya, 2015).

As shown in Figure 01, green marketers can work in four different areas for marketing green energy products according to the context. It is important to convey the advantages of green products to the public by showing the value it adds to peoples' life. Green markets can use the same strategies to influence customers by stressing sustainability and the benefits of buying green products in order to influence ecologically concerned consumer behaviour. Resorting to powerful communication with customers will enable marketers to develop long-term relationships with them. Finally, the marketer can convey the personal value that the customer will get by the consumption of the green product. By adding them all together into a marketing strategy, the marketer can create awareness among customers on renewable energy products. Green energy marketing refers to a new era of renewable energy industries in both developed and developing countries. It can also

motivate customers to conserve resources for the future and to promote technical innovation in energy production.

Figure 1. Lessons for Green Marketers



Source: Green Marketing, Renewable, and Free Riders: Increasing Customer Demand for a Public Good, 1997

Understanding consumers' opinions about innovative products and development provides two key benefits. First one is explaining the strengths and weaknesses in the innovation products and how to manage them effectively (Hsu et al., 2000). Secondly, the control process can be utilized in marketing activities to attract more consumers to innovative products and to select the right audience (Auty & Elliott, 1998). Then marketers can attempt

the step-wise process of influencing the ways in which customers react to innovative and non-innovative products. However, the energy organizations are required to pay attention to the actual outcome of consumer behaviour which may be quite different from the way the books describe it. Nevertheless, the novel features introduced through product development, in combination with improved economic and operational aspects can be promoted through marketing strategies to create awareness of the innovation, usability, and potential importance of solar energy. All product manufacturers and suppliers should work closely to develop innovative products that have high utility in solar power generation. Renewable energy companies should collaborate more with academic institutions and also build awareness about career opportunities in the renewable energy sector (Kar et al., 2016). These practices will attract more customers for the companies in future (Faiers & Neame, 2006).

Hypothesis development

Cause-Related Marketing (CRM) may be the most creative and cost-effective product marketing strategy to have evolved in years, and one that directly addresses the issue of measured financial returns. It offers distinct benefits for an effective marketing campaign that fulfills social responsibilities, satisfies specific market-related objectives, and enhances the corporate image (Smith & Alcorn, 1991). Therefore, it is important to note that the cause is typically perceived more favorably than the brand of a product (Webb & Mohr, 1998). However, organizations are facing difficulties in securing customer loyalty, and struggling to link philanthropic activities to corporate strategies to improve their competitive advantage (Varadarajan &

Menon, 1988). CRM is a form of sponsorship that falls into the broadest category of corporate social responsibility. The movement towards CRM is a response to consumers becoming more socially conscious (Dupree, 2000). The companies that can afford to help solve the social and political issues through donations can actually shape the attitudes of the public. Cause related marketing has the ability to enhance the financial performance of companies because the customers are more willing to pay for their products and services. Long-term benefits of CRM are enhanced perceptions of firm image (Varadarajan & Menon, 1988).

H₁: Solar companies with cause-related activities can positively influence the customer purchase.

Community-based social marketing is quite effective at fostering sustainable behavior in business practices (Kassirer & McKenzie-Mohr, 1998). It is comprised of four steps: uncovering barriers to behaviors and then, based upon this information, selecting which behavior to promote; designing a program to overcome the barriers to the selected behavior; piloting the program; and evaluating it once it is broadly implemented (McKenzie-Mohr & Smith, 1999). As a result, it merges the knowledge of psychology with social marketing expertise (Geller, 1989). Social marketing emphasizes that effective program design begins by understanding the barriers that people perceive when they want to participate in any activity (Andreasen, 1995). Social marketing also emphasizes the importance of delivering programs strategically to targeted segments of the public and overcoming any barriers that obstruct their desired behavior. Community-based social marketing also uses strategic delivery programs to attract particular public seg-

ments and attempts to overcome barriers that discourage them from making use of the companies' products (McKenzie-Mohr, 2000).

H₂: Solar companies with community-based social activities can positively influence the customer purchase.

Marketers use a variety of tools to promote their products, including advertising, direct marketing, Internet or interactive marketing, sales promotion, personal sales, and advertising or public relations campaign (Belch & Belch, 2007). The consumer is in control of how information is generated, created, organized, and shared. In the case of marketing promotion, this information is about products and services or other business activities, ideas, tangible items, or causes (McKenzie et al., 2009). 'The integration of promotions' involves maintaining a clear and consistent image, position, message and/or theme across all marketing communication channels or tools. A common strategy or 'singular identity' is decided upon at the outset of a campaign, and that strategy unifies consumer sales promotion, direct response advertising, brand/ image advertising, and even public relations efforts (Wang et al., 2009). Consumers are different in their attitude towards environmental concerns and green commitment, and this opens 'niche market' opportunities for business firms. Mass market opportunities are also available but now companies employ product strategies that eliminate the performance gap between environmentally-friendly products and technologically advanced products. Also, marketing strategies act to change the behaviour of consumers through effective communication and superior delivery (Wong et al., 1996).

H₃: Solar companies with promotional activities can positively influence the customer purchase.

Sales force of a company plays a key role in the formation of long-term customer relationships. One aspect is that they act as the first contact person in the company to the customers. The retention of a customer usually depends on the way he/she is treated by the sales force (Weitz & Bradford, 2012). As the primary link between the buyer and the seller, they exert considerable influence on the buyer's perceptions of the seller's reliability and the value of the seller's services and consequently the buyer's interest in continuing the relationship (Biong & Selnes, 1996). Buyers often have greater loyalty to the salespeople than they have to the firms employing the salespeople (Macintosh & Locksin, 1997; Anderson & Robertson, 1995). Personal selling supports those situations that relate to communicating values and attitudes to the consumers (Weitz & Bradford, 1999).

H₄: Solar companies with a well-trained sales force can positively influence the customer purchase.

Methodology

This study used a quantitative methodology with primary data collection through a structured questionnaire. The population for this study consisted of two samples, one being domestic consumers and the other marketing experts of selected organizations. There are studies identifying the characteristics of green consumers and the behaviour of Ecologically Concerned Consumers (Rundle-Thiele et al., 2008). The samples were selected using the convenience sampling method although it has the disadvantage that the outcome cannot be generalized. However, the convenience sampling method is appropriate within the context of the subject area of this study. The study was intended to observe the current status of the solar power in-

dustry in developing countries, and convenience sampling is quite appropriate for the nature of this industry. The key respondents of the questionnaire were the individual consumers, industry consumers and marketing experts of selected organizations. There were 120 individual consumers from three districts in Sri Lanka and 40 marketing experts who were included in the initial plan of the data collection. A total of 110 individual responses and 25 responses of marketing experts were usable as data in this study. This is a sufficient number according to Green (1991). Online interviews were conducted to collect data from the marketing experts. A door-to-door survey was carried out with individual consumers as it is considered to be a valuable method for collecting information (Hiller et al., 2014).

Table 1. Geographic and demographic information of Sample 01

Demographic characteristics	Geographic information – Simple random sampling used	Number of respondents – Convenience sampling used
Households –		
Non users of solar energy	Colombo	40
At least four members in a family		
Middle class family	Hambantota	40
Electricity consumption more than 1000 kWh per year	Kilinochchi	40

Source: Created by author

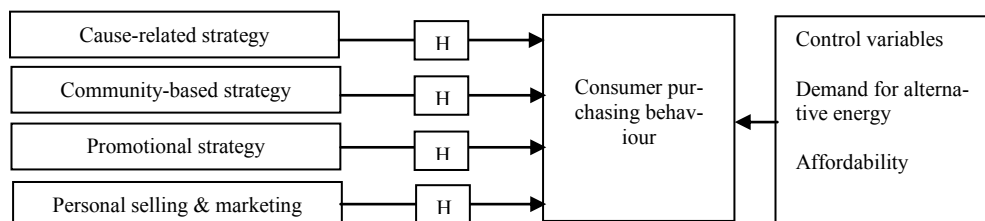
Table 2. Demographic information of Sample 02

Demographic characteristics	Geographic information – Convenience sampling used	Number of respondents – Convenience sampling used	Actual responses based on the industry
Marketing Managers of medium or large scale organizations More than 5 years of experience in the field	Online reachable locations	40 heads were contacted through a database of MBA alumni associations	Manufacturing – 09 Retailer – 06 Service – 06 Construction – 04

Source: Created by author

To analyse the dataset, Microsoft EXCEL Toolpak was used at the beginning to derive descriptive statistics such as customers' general profiles and marketing preferences. Later, Minitab was used to test the hypotheses and draw conclusions.

Figure 2. The proposed framework



Source: Created by author

The relationship between the marketing objectives and the consumers' characteristics is presented in Figure 02. The green power marketing strategy should aim to deliver a green message with information regarding the price, innovation, technology, aesthetic appeal of the product as well as personal benefits of the product. An effective communication channel must be established to deliver this message. Thus, this message should address the exact consumers that the solar power industry wants to talk to. Naturally, communication plays a major role in achieving this. The Ecologically Concerned Consumer is the target market of the solar power industry. When

consumers are ecologically concerned it is much easier to deal with them as they are more likely to be aware of the solar power option and the products. Then it becomes easier to commence the long term consumer-manufacturer relationship.

The questionnaire consisted of 25 items measured using a five point or seven point (Table 03) Likert scale. Each of the four selected marketing strategies was measured by items that were picked up from the literature. The first was Cause-related marketing – How solar power companies help to solve social and political issues, the company's ability to enhance the financial performance through cause-related marketing activities and the use of an effective marketing campaign that promises to fulfill social responsibilities and thereby enhances corporate image. The second was Community-based strategy – Sustainable behavior in business practices and practicing strategic delivery programs. The third was Promotional strategy – Applying tools to promote their products, including advertising, direct marketing, Internet or interactive marketing, sales promotion and public relations, using product strategies that eliminate the performance gap between environmental friendliness and technological advances and using effective communication. The fourth was Personal selling and marketing – Developing relationships to convince the customer to stay with the company and getting the sales force to continue influencing the customer's buying behaviour. These are the selected marketing strategies based on the preferences given by the Sample 2 respondents. The personal selling and marketing, although it is a part of promotional marketing, has been used by many marketers as one of the main marketing strategies. The marketing mix of the product is based mainly on quality and price. The technology and materials with the same

brand name are also promoted through it. The common practice is to sell solar power systems directly to users via trade exhibitions (Tsoutsos, 2002).

Table 3. Definition of Variables

Variable	Definition	Measurement
Independent Caused-Related Marketing	– Cause-Related Marketing (CRM) is a marketing activity “characterized by an offer from the firm to contribute a specified amount to a designated cause when customers engage in revenue providing exchanges that satisfy organizational and individual objectives,” or to put it more succinctly, ‘profit motivated giving’ (Varadarajan & Menon, 1988).	“I would consider purchasing the product in order to provide help to solve social and political issues” and “It is likely that I would contribute to this cause by getting involved financially in this cause-related marketing campaign” and “An effective marketing campaign that fulfills social responsibilities and enhances corporate image.” The anchors of the scale were 1 = ‘strongly disagree’ and 7 = ‘strongly agree’ (Howie et al., 2018).
Independent Community- Based Social Marketing	– Community-based social marketing has proven to be an effective method of inducing actual attitudinal and behavioral change by taking an interactive approach to information delivery, employing behavioral change tools drawn from social science research (Kennedy, 2010).	“Sustainable behaviour in business practices” and “Practicing strategic delivery programs.” The anchors of the scale were 1 = ‘strongly disagree’ and 5 = ‘strongly agree’ (Cooper, 2007).
Independent Community- Based Social Marketing	– Marketers conduct promotions to communicate information about their products and to persuade consumers to buy them. There are four major types of promotions: advertising, sales promotions, personal selling, and publicity. Like all marketing strategies, promotions are perceived by consumers as social and physical aspects of the environment, and that may influence consumers’ affective and cognitive responses as well as their overt behaviours (Armstrong et al., 2015).	“Using tools to promote their products, including advertising, direct marketing, Internet or interactive marketing, sales promotion” and “publicity or public relations and product strategies that eliminate the performance gap between “environmental friendliness” and “technological advances.” The anchors of the scale were 1 = ‘strongly disagree’ and 5 = ‘strongly agree’ (Wong, Turner, & Stone-

Variable	Definition	Measurement
Independent – Personal Selling	<p>The degree to which sales people practice the marketing concept by trying to help customers make purchase decisions that will satisfy customer needs (Saxe & Weitz, 1982, p. 344).</p> <p>Personal selling is to persuade customers to buy the product, by using aggressive selling techniques that focus on achieving short-term results for their companies (Weitz & Bradford, 1999).</p>	<p>man, 1996).</p> <p>“Developing relationships that will make the customer remain with the company” and “Sales force will continue to influence the customer buying behaviour.”</p> <p>The scale used was 1 = ‘strongly disagree’ and 7 = ‘strongly agree’ (Smith et al., 2001).</p>
Dependent – Consumer Purchasing Behaviour	<p>Consumer purchasing behaviour involves the study of individuals and the method they employ to choose, utilize, and set out products and services to fulfill their wants and the effect that these methods have on the consumer and the society as a whole (Khaniwale, 2015).</p>	<p>A dichotomous scale is used for Purchasing and Non purchasing (Woodside & Davenport, 1974).</p>

Source: Created by author

The model considered two control variables, namely affordability and the demand for alternative energy, which were kept constant during this study. Affordability is an important factor and the price of energy can vary, depending on the source. Energy prices can strongly influence the purchasing behaviour of consumers (Sovacool, 2015). The econometric models of Galindo (2005) indicate that all demands for energy are sensitive to prices both in the short and long run.

Key Findings

The nature of the potential green consumer must be understood well to be able to introduce valuable incentives to increase consumer uptake. Knowledge of the consumer should be the focal point of all marketing action (Bell & Emory, 1971). Understanding the consumer preferences is es-

sential in all marketing strategies, especially in a very competitive industry, as the results of this study testify. The results were generated based on descriptive statistics, regression and the testing of hypotheses. Descriptive statistics were used to measure the applicability of four selected marketing strategies for solar power marketing in developing countries.

Table 4. Customer preferences on Cause-related marketing

	Helping to solve social and political issues	Ability to enhance the financial performances through cause-related marketing activities	An effective marketing campaign that fulfills social responsibilities and enhances corporate image
Mean	22	22	22
Standard Error	8.03	10.29	8.43
Median	12	9	14
Mode	Strongly agree	Strongly agree	Strongly agree
Standard Deviation	17.96	23.02	18.85
Sample Variance	322.5	530	355.5
Kurtosis	1.22	2.82	4.12
Skewness	1.41	1.74	2.01
Range	42	54	45
Sum	110	110	110
t stat	0	0	0
t Critical one-tail	2.13	2.13	2.13

Source: Created by author

Most developing countries face many problems related to social and political issues, and as these affect the people badly they tend to seek external support to solve their problems. High price of energy is one of the outstanding problems that cause social, economic and political upheavals, causing an adverse impact on people's living standards in these countries. As one alternative to conventional energy sources, solar power has great poten-

tial for use in such situations (Sustainable Energy Authority, 2013), although it requires creating a proper awareness among the population (Kar et al., 2016). Based on the results shown in Table 04, majority of potential customers are strongly in favour of the solar suppliers who are willing to help solve social or political issues; this is demonstrated by the strongly positive skewness of the distribution and a high mean value of the median. With the high variance recorded, the kurtosis indicates a higher and sharper peak in the distribution curve. The potential customers also strongly agree that the cause-related marketing activities can enhance the financial performance of a company, by showing again a highly positive skewness, a greater mean value to the median, and a high variance with a kurtosis that reflects a higher and sharper peak on the distribution curve. Finally, the potential customers also strongly agree that an effective marketing campaign that fulfils social responsibilities provides a chance to enhance the corporate image. A very high and positive skewness with a greater mean is recorded; the kurtosis is a very high number with a sharper peak. The test statistics of above three sub-variables show that the hypothesis H1 is acceptable. All of the above results indicate that the customers place their reliance on companies that link philanthropic activities to corporate strategies, thereby improving their competitive advantage.

Table 5. Customer preferences on Community-based social marketing

	Sustainable behaviour in business practices	Practicing strategic delivery programs
Mean	22	22
Standard Error	11.28	8.72
Median	11	10
Mode	Strongly agree	Neutral

	Sustainable behaviour in business practices	Practicing strategic de- livery programs
Standard Deviation	25.23	19.48
Sample Variance	636.5	379.5
Kurtosis	3.98	-1.46
Skewness	1.978	0.98
Range	43	43
Sum	110	110
t stat	0	0
t Critical one-tail	2.13	1.13

Source: Created by author

Community based marketing focuses on the needs of existing customers, expecting to fulfill four needs of businesses. This strategy is used to connect existing customers with prospects and link each prospect with the future needs of customers (Prata et al., 2016). Community-based marketing also helps to build customer loyalty and can improve the relationship between customers in order to improve the product strategy, adaptation and so on. Based on the results of Table 05, majority of potential customers strongly approve of the solar power suppliers who practice sustainable business practices; this is demonstrated by the highly positive skewness of the distribution and a greater mean value of the median. With the high variance recorded, the kurtosis indicates a higher and sharper peak in the distribution curve. The potential customers are neutral on the strategic delivery programs of the solar companies. Majority of them have mentioned that the strategic delivery fulfills the company's sustainable business practices. This is indicated by the moderate skewness, a greater mean value of the median, and a high variance of the kurtosis, which reflects a lower, less distinct peak on the distribution curve. All of the test statistics of the two sub-variables show that the hypothesis H2 is acceptable.

Table 6. Customer preferences on Promotional marketing

	Using tools to promote their products, including advertising, direct marketing, Internet or interactive marketing, sales promotion and publicity or public relations	Product strategies that eliminate the performance gap between environmental friendliness and technological advances	Effective communication
Mean	22	22	22
Standard Error	8.37	10.42	12.68
Median	19	11	6
Mode	Disagree	Strongly agree	Strongly agree
Standard Deviation	18.72	23.31	28.24
Sample Variance	350.5	543.5	797.5
Kurtosis	-0.19	3.33	2.2
Skewness	0.852	1.83	1.61
Range	45	56	67
Sum	110	110	110
t stat	0	0	0
t Critical one-tail	-2.13	2.13	2.13

Source: Created by author

Promotional marketing is a very common strategy that is a part of sales practices in many developing countries. However, the goal of this is to induce immediate and favourable behavioural change towards a product or service purchase (Nelson, 1991). Advertising is used very frequently by many companies, and they expect immediate responses from the target audience (Belch & Belch, 2007). Based on this state of affairs, promotional strategies can be used to push a product easily. However, the results obtained through this study indicate a different outcome. According to Table 06, majority of potential customers regard unfavourably those companies that use common promotional tools like advertising, direct marketing, Internet or interactive marketing, sales promotion and publicity or public rela-

tions; this is demonstrated by the moderately skewed distribution and a greater mean value of the median. Although the variance is high, the kurtosis indicates a lower peak in the distribution curve. The potential customers also strongly agree on the product strategies that eliminate the performance gap between environmental friendliness and technological advances; this requires effective communication, by proving again a highly positive skewness, a greater mean value of the median, and a high variance of the kurtosis, which is reflected in a higher and sharper peak of the distribution curve. The test statistics of all the above three sub-variables show that the hypothesis H3 is acceptable except for the use of heavy promotional tools like advertising, direct marketing, interactive marketing and so on.

Table 7. Customer preferences on Personal selling and marketing

	Developing relationships make the customer stay with the company	Sales force has a continuous influence on customer's buying behaviour
Mean	22	22
Standard Error	6.77	8.79
Median	20	12
Mode	Strongly agree	Strongly agree
Standard Deviation	15.15	19.65
Sample Variance	229.5	386.5
Kurtosis	2.25	3.62
Skewness	1.45	1.90
Range	37	47
Sum	110	110
t stat	0	0
t Critical one-tail	2.13	2.13

Source: Created by author

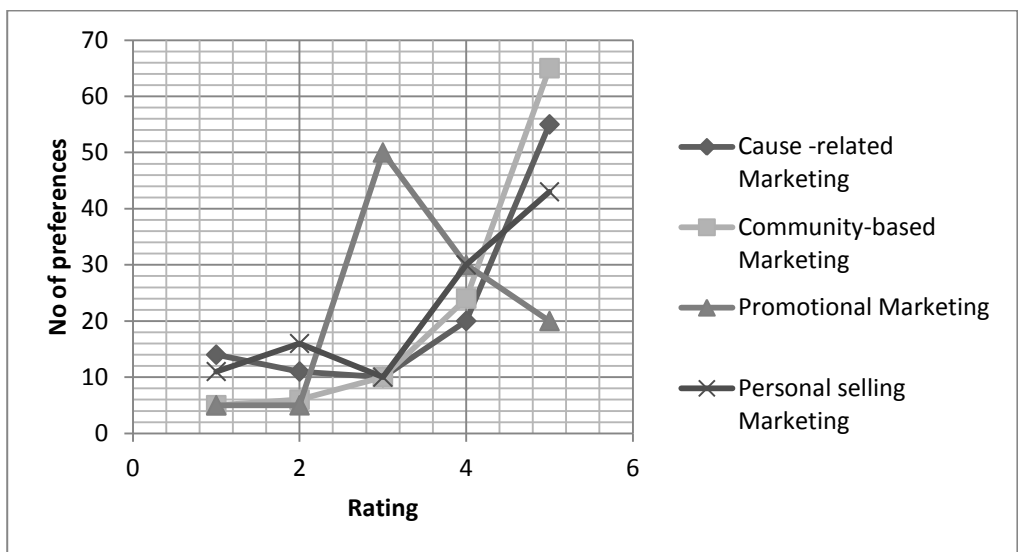
Sales force is the link that takes a product from a company to the end user. They promote the product through their attitude, appearance and specialized knowledge of the product, and lead to the creation of strong rela-

tionships with customers (Weitz & Bradford, 1999). The sales force may influence the customers to purchase or try out the product by making a persuasive impact on potential customers (Weitz & Bradford, 1999). It is important to check how customers prefer to obtain the services of the sales force when solar PV suppliers employ a sales staff. Based on the results of Table 07, majority of potential customers strongly agree that the sales force has the ability to develop relationships that will make the customer retain the company; this is demonstrated by the highly positive skewness of the distribution and a greater mean value of the median. With the high variance recorded, the kurtosis indicates a higher and sharper peak in the distribution curve. The potential customers strongly agree that the sales force has a continuous influence on customer buying behaviour. Majority of them have mentioned that this would lead to the development of a long term relationship with the company; this is proved by a highly skewed distribution, a greater mean value of the median, a high variance with a kurtosis that reflects a sharper peak of the distribution curve. The test statistics of these two sub-variables show that the hypothesis H4 is acceptable.

The adoption of solar energy offers significant social benefits, including reduced GHG emissions, improved air quality, and a long-term benefit package, including the prevention of environmental degradation. This calls for the marketers and the government to inform and convince consumers regarding the benefits of solar energy (Rundle-Thiele et al., 2008). Figure 03 supports that view by presenting the consumers' preferences on the combined use of all four selected marketing strategies such as cause-related, community-based, promotional and personal selling marketing, which can be used in Sri Lanka. As per Rundle-Thiele et al. (2008),

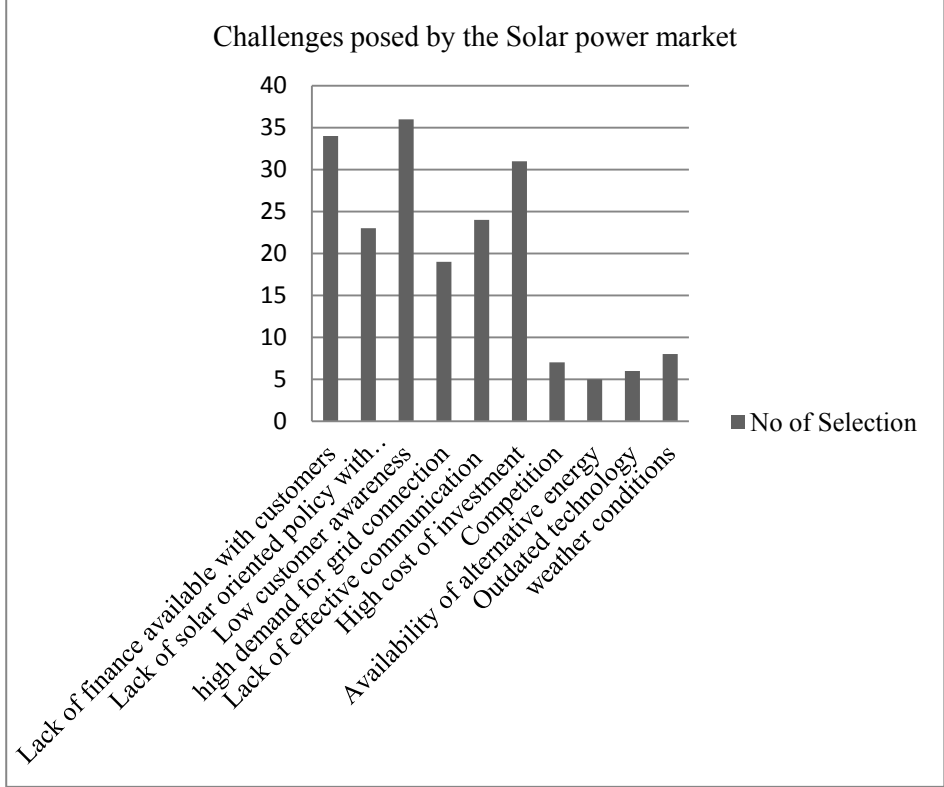
marketing renewable power is a challenge however, as consumers trust utility power suppliers more (Wohlgemuth & Getzner, 1999). The result of this study proves it again and confirms that one of the results given in Table 06 indicates that the companies must look for new ways of marketing rather than applying traditional marketing methods like promotional marketing. Community-based and cause-related marketing were selected as more preferable than traditional methods. A combination of cause-related, community-based and personal selling are preferred most and customers recommend that the three methods be used as a mix of strategies at the same time.

Figure 3. Customer preferences on a combined strategy



Source: Created by author

Figure 4. Challenges posed by the solar power market



Source: Created by author

The marketing experts who participated in the online interview were provided an opportunity to discuss the challenges faced by the solar power companies. Commonly cited reasons were lack of finance on the part of customers (Dorian et al., 2006), lack of solar oriented policy and government support (Kar et al., 2016), low customer awareness (Dorian et al., 2006), greater demand for grid connection (Dorian et al., 2006), lack of effective support (Costanzo et al., 1986), and high cost of initial investment (Kar et al., 2016; Chu & Majumdar, 2012). Lack of customer awareness, lack of finance available with customers, and high cost of investment were the mostly challenging aspects of the solar power market, which further explain

the findings of Dorian et al. (2006) and Kar et al. (2016). Marketers particularly mentioned that the government and solar companies must find solutions to these three challenges and that a new approach is required to overcome them. This result also supports the findings of Thiele et al. (2008) who declare that there must be new ways of marketing green power, especially through strategies that will create customer awareness.

Discussion

Based on the results of interviews conducted to obtain the views of marketing experts, a strategic mix is recommended to promote solar PV energy to the domestic market in developing countries. This supports the results of studies done by Faiers & Neame (2006). It is necessary to practice different marketing strategies in combination to send the product message to the end customer, while changing the attitude of the public. This finding provides an insight into the suggestion of Rundle-Thiele et al. (2008) that because knowledge arms consumers with choices, it is a critical component in attitude formation. Experts have also noted that the social and environmental psychologies underscore the importance of personal values and situational factors as they can be used in the formation of marketing strategies by providing similar insights as the findings of He & Kua (2013). The marketing experts also emphasized that the customers may prefer to change their attitude towards purchasing solar power units if the marketing service supports them; this has also been pointed out by Kua & Wong (2012). The results of this study support the suggestion of Wohlgemuth & Getzner (1999) that the success of green marketing depends on integrating education into marketing strategy, utilizing the ecological and strategic dimensions of

information technology, and maximizing customer value through a portfolio of products. This study suggests promoting solar energy products in a different manner, instead of using the same traditional marketing strategies like advertising. Wohlgemuth & Getzner (1999) explained that the adoption of a marketing strategy that combined information technology and maximization of customer value through a portfolio of products may stimulate an increase in the demand. This is not consistent with the findings of this study as some of the marketing experts agreed that the future customer's evaluation of the gap between green and traditional products' performance will depend on the companies' product development decisions.

The findings of community-based marketing and cause-related marketing practices may result in new approaches to the solar PV industry, as they support the findings of Anda & Temmen (2014), Mckenzie-Mohr (2000), Stern (2000) and Howie et al. (2018). As Anda & Temmen (2014) suggested, community based marketing has a chance to influence people and encourage social responsibilities. This study suggests that making customers aware of the sustainable behaviour of firms and ensuring strategic delivery will add much promise to the future of the solar industry. This study also supports the findings of Stern (2000) that personal values are the key determinants of pro-environmental behaviour. Therefore, this study suggests that being in a competitive industry, it is essential that solar companies build a good reputation and image through a strategic delivery which leads to the development of long term relationships with customers. Cause-related marketing is directly linked with solving social problems such as energy supply, which is most important to the people. Solar companies are directly promoting a solution to the energy problem that exists presently by

endeavoring to provide an alternative solution (Kar et al., 2016). The community approach is followed in this study as many marketing experts have accepted that to promote sustainable business practices there must be a high involvement of consumers. And the Sample Two findings showed that an effective marketing campaign that promises to fulfill a social responsibility may impact positively by increasing the financial performance of the firm. Anda & Temmen (2014) also suggested that Cause-related marketing can be developed to benefit people living in rural areas, where the involvement of the community is essential to solve problems related to water supply, energy, biodiversity conservation and so on.

Based on previous research (Pitta et al., 2006; Holm, 2006; Madhavaram et al., 2005), some traditional marketing methods like promotional and personal selling are still realistic in the developing countries. The people receive information mainly via television, radio and telephone, and these influence their buying behaviour accordingly (Pitta et al., 2006). The findings of this study contradict previous research and suggest that traditional marketing methods like advertising, direct marketing, Internet or interactive marketing, sales promotion and publicity or public relations are no longer important in changing the buying behaviour of consumers to a significant degree. However, it is important to highlight two findings of this study. One is that the environmental benefit of a product needs to be conveyed through effective communication so that it will help to build consumer trust. An increase of trust brought about by effective communication creates long term brand loyalty and support (Wang et al., 2009). From the marketing experts' and customers' points of view, the key to boosting demand is to draw attention to the product's innovations and its affordability; this

must be done through generating customer pull rather than by the companies pushing sales. The results obtained by the personal selling effectiveness prove the insights of Weitz & Bradford (1999), according to which salespeople play a key role in the formation of long-term buyer-seller relationships. This is the second finding of the study and it confirms that the salespersons continue to have an influence on the customer buying behaviour through the buyer's positive perception of the seller's reliability; this point is also acknowledged by Biong and Selnes (1996). In fact, buyers often have greater loyalty to the salespeople than they have to the firms employing the salespeople (Macintosh & Locksin, 1997).

Majority of marketing experts have accepted that there is a combination of marketing strategies that must be put in action rather than depending solely on traditional strategies, in order to raise consumer awareness. Just as with the findings of Rundle-Thiele et al. (2008), the marketing experts are also of the opinion that consumer awareness is an important factor in promoting solar energy. This approach not only helps to promote solar PV products but also helps companies to create a positive green image; this could later lead to the ability to build environmentally responsible consumers as well. This finding is an extension of Darby's (2006) findings and according to this a high level of encouragement is necessary to motivate consumers to take up a pro-environmental attitude. Many researchers disapprove of the kind of marketing strategy that is limited to directing specific appeals to customers to buy the firm's products (Bradley, 1995, p.666). This study proposes a combination of marketing strategies based on educating the customers about the product and its environmental context, earning their trust and winning their loyalty.

Conclusion

The limitations of this study are that due to financial and time constraints, the gathered data did not include any information about customer knowledge, beliefs and differences (Bang et al., 2000) of households living in different localities like Africa and Latin America. The external environmental factors (Akella et al., 2009) can vary from region to region and that too is not covered by this research. The results are based on limited data collected from only three selected provinces in Sri Lanka, which may limit the possibility of generalizing the results. Another limitation of this study is that only four selected marketing strategies were measured. Those four strategies were recommended by four marketing experts after studying the results of a pilot survey. Future researches can test the application of other marketing strategies and see how they work in the solar power market. However, the present findings provide key insights that can help to develop a combined marketing strategy to promote (Thiele et al., 2008) solar power more effectively in developing countries to win over many more of the potential customers.

The most interesting finding of this survey is that the application of traditional marketing tools are not received favorably by the customers and their preferences lean more towards marketing strategies that can create a social impact with the high involvement of customers. However, this rejects the traditional marketing tactics that were in vogue earlier and which had been discussed extensively in some previous researches (Wang et al., 2009; Clow & Baack, 2002). The findings also show that there is a linear relationship between all four marketing strategies, which enable marketers to use them together. However, the discussion the author had with marketing ex-

perts focused attention on some of the challenges faced by the solar power market such as lack of finance facilities for customers (Dorian et al., 2006), lack of solar oriented policy and government support (Kar et al., 2016), low customer awareness (Dorian et al., 2006), preference for grid connection (Dorian et al., 2006), lack of effective support (Costanzo et al., 1986), and high cost of investment (Kar et al., 2016; Chu & Majumdar, 2012). Therefore, marketers must be careful in selecting suitable marketing strategies to ensure a good return on investment and minimize the impact of aforementioned challenges.

Finally, this study is able to present empirical evidence to solar companies on how to market solar PV units to households in the developing countries. This provides an opportunity to rethink new ways of marketing solar energy and fulfilling customer expectations. Evidence showed that many customers are able to exercise their influence on new methods of energy saving and that they are expecting a different approach from the solar marketing companies. This result of the study finds that a fresh marketing approach is necessary to promote solar power among households in Sri Lanka, and therefore further research is advisable to study the issue in different contexts such as emerging, developing and developed approaches in marketing solar power generation systems by the companies.

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